No.



8200155

### THE UNITHED STAYIES OF ANTERICA

Nickerson American Plant Breeders, Inc.

Tothereas, there has been presented to the

#### Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable basic seed of the variety in a public repository as provided by LAW, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, or importing it, or exporting it, or using it in producing a hybrid or different liety therefrom, to the extent provided by the Plant Variety Protection Act. E United States seed of this variety (1) shall be sold by variety name only as of certified seed and (2) shall conform to the number of generations by the owner of the rights. (34 stat. 1542, as amended, 7 u.s.c. 2321 et seq.)

RARIFY

'Lindy'

In Testimony Wancreot, I have hereunto set my hand and caused the seal of the Plant Bariety Protection Office to be affixed at the City of Washington, D.C. this 28th day of February in

this 28th day of February in the year of our Lord one thousand nine hundred and eighty-six.

Adding Secretary of Agriculture

Allast.

Lenat BEar

Plant Variety Protection Office Agricultural Marketing Service

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE		FORM APPROVED OMB NO. 40-R3822  No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).		
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE INSTRUCTIONS: See Reverse.				
1a. TEMPORARY DESIGNATION OF VARIETY	16. VARIETY NAME	=		IAL USE ONLY
NAPB 8 (6B76-22A)	Lindy		8200155	
2. KIND NAME	3. GENUS AND SPE	CIES NAME	FILING DATE	TIME XXXX,
Barley	Hordeum vulgare L. 8/23/82		FEE RECEIVED	2:30 <sub>P.M.</sub>
4. FAMILY NAME (BOTANICAL)  Grami neae	5. DATE OF DETERMINATION \$ 500.00		8/23/82	
***************************************	2) November 1979			
6. NAME OF APPLICANT(S) ECKERSOA) <del>rth</del> American Plant Breeders, <b>IN</b> C	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Dr. Mission, KS 66205		8. TELEPHONE AREA CODE AND NUMBER 913-384-4940 KS 303-532-3721 CO	
9. IF THE NAMED APPLICANT IS NOT A PEOPLE ORGANIZATION: (Corporation, partnership Partnership	Incorporated, GIVE STATE AND DATE OF INCORPORATION  Stamford, Conn.		11. DATE OF INCORPORATION March 9, 1973	
12. NAME AND MAILING ADDRESS OF APP ALL PAPERS: Giles Dixon R.C NAPB, P.O. Box Mission, KS 66	e, Heiner 2955		<del>o</del> r C. Bruns )	cation and receive Set as per letter 7/11
13C. Exhibit C, Objective Description 13D. Exhibit D, Additional Des  14a. DOES THE APPLICANT(S) SPECIFY THAT SEED? (See Section 83(a). (If "Yes," answ.	cription of the Varie	ty. IETY BE SOLD BY VA		
14b. DOES THE APPLICANT(S) SPECIFY THA LIMITED AS TO NUMBER OF GENERATI	T THIS VARIETY BE	14c. IF "YES," TO 14	<u> </u>	RATIONS OF PRODUC-
X YES NO		FOUNDATION	X REGISTERED	X CERTIFIED
15a. DID THE APPLICANT(S) FILE FOR PROT name of countries and dates.)	ECTION OF THIS VAR	RIETY IN OTHER COU	INTRIES? YES	NO (If "Yes," give
15b. HAVE RIGHTS BEEN GRANTED THIS VA and dates.)	ARIETY IN OTHER CO	UNTRIES? YES	NO (If "Yes,	give name of countries
		7		
16. DOES THE APPLICANT(S) AGREE TO THE JOURNAL? YES	EPUBLICATION OF I	HS/HER (THEIR) NAM	IE(6) AND ADDRESS I	N THE OFFICIAL
17. The applicant(s) declare(s) that a viable replenished upon request in accordance	e sample of basic see e with such regulation	d of this variety will ns as may be applical	be furnished with the ble.	application and will be
The undersigned applicant(s) is (are) the variety is distinct, uniform, and stable 42 of the Plant Variety Act.	as required in Section	n 41, and is entitled t	to protection under tl	ne provisions of Section
Applicant(s) is (are) informed that fals	e representation here	in can jeopardize pro	otection and result in	penalties.
19 Jaly 1982		_ Kali	SIGNATURE OF APPL	ICANT)
8-9-1982.		$\bigcap$	Minch	
(DATE)		· V	SIGNATURE OF APPL	ICANT)

#### INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

#### ITEM

- Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties:

  (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

RECEIVED AUG 23 1982

- If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 9 8 7 6 1 B
- See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

Origin and breeding history of Lindy (6B76-22A; NAPB-8; Lindy)

Pedigree: Steptoe/CM67

Date of Cross: The cross was made in the fall 1973 greenhouse; the F<sub>1</sub> was grown in the spring 1974 greenhouse to produce F<sub>2</sub> seed.

History: F2 plants were grown at Great Falls, Montana; Berthoud, Colorado; and Lethbridge, Alberta, Canada (dryland) in 1974. Single plant selections were advanced to F3 plots and grown at Berthoud, Colorado in 1975. The F4 bulk was yield tested in 1976 at Berthoud, Colorado and 5 single plants were selected for winter increase as F5 plant selections in Christchurch, New Zealand during the 1976-77 offseason. In 1977 the original seed tracing to the F4 bulk was yield tested as an F5 at Berthoud, Colorado; Great Falls, Montana; and Twin Falls, Idaho. In addition the 5 subfamilies tracing to single plant F5 selections were yield tested as F6 bulks in Berthoud, Colorado. From the five lines, subfamily A was chosen to continue with and the line designation of 6B76-22A was used. This line served as the pure seed and yield trial source in 1978. This line has been tested by NAPB in Berthoud, Colorado from 1978 to 1982. It was also tested in Twin Falls and Nampa, Idaho trials in 1979 and 1980, respectively. 6B76-22A was entered as NAPB-8 in Intermountain barley testing programs in 1980. NAPB-8 has been tested in Colorado, Wyoming, Montana, Idaho, Washington, and Oregon.

Purification was initiated in 1977. Two hundred plants were selected from 6B76-22A (subfamily A). These were grown at our Berthoud, Colorado location and 22 rows were discarded. A head row from each of the remaining plant selections was grown in Yuma, Arizona during the 1978-79 winter season. Several head rows were discarded at the Yuma, Arizona nursery and a head row from each row was grown at Berthoud, Colorado in 1979. The seed produced in 1978 and 1979 was bulked and planted in Yuma, Arizona to produce original breeder seed.

Two hundred eighty-eight head rows from this breeder seed were also grown in 1980 to constitute breeder seed, and future head rows will be grown as necessary to produce breeder seed. Breeder and Foundation seed fields were stable and uniform in 1982.

#### Exhibit B

#### Novelty Statement

Lindy is most similar to the spring barley variety, Steptoe, however, it can be distinguished by the following morphological characteristics:

- Lindy's head density is lax. Steptoe is described in an Exhibit C from the Washington State Exp. Station (1973) as having a mid-dense head.
- Lindy's rachis is covered with hair. Steptoe has few hairs on the edge of its rachis. (Exhibit C; Washington State Exp. Station, 1973.)
- Lindy's glume awns are less than equal to the length of the glume. Steptoe's glume awns equal 1/2 the length of the glume. (NAPB Inc. morphological data.)
- Lindy has few teeth or barbs on the lateral veins of lemma. Steptoe has numerous teeth/barbs on the lateral veins of the lemma. (NAPB Inc. morphological data, also "Barley Variety Dictionary" published by Malting Barley Improvement Assoc., Milwaukee, WI 1971.)
- Lindy's flag leaf makes a 90 degree angle from the stem at boot stage. Steptoe's flag leaf is recurved at boot stage. (NAPB Inc. morphological data.)

FORM GR-470-5 (11-1-72)

# UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE

EXHIBIT C (Barley)

GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

## OBJECTIVE DESCRIPTION OF VARIETY BARLEY (HORDEUM VULGARE)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
North American Plant Breeders	PVPO NUMBER 8200155
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Dr. Mission, KS 66205	VARIETY NAME OR TEMPORARY DESIGNATION
Place the appropriate number that describes the varietal character of this variety.	
. GROWTH HABIT:	Almas kuntimata a apprintation and a second
	Growth: 1 # PROSTRATE ② 2 # SEMIPROSTRATE ○ 3 # ERECT
MATURITY (50% Flowering):	
2 1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Fro	ontier)
No. of days Earlier than	RIQUT 3 = CONQUEST 4 = DICKSON
No. of days Later than	ANITAN
B, PLANT HEIGHT (From soil level to top of head):	A service of the serv
3 1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALLS (Be	etzes) 4 = TALL (Conquest)
Cm. Shorter than	RIOUT 335 CONQUEST 445 DICKSON UNITAN
	and the state of t
STEM:  1 = 0 - 3 cm. 2 = 3 - 10 cm.    The control of the control	anin: 1 = ABSENT 2 2 = PRESENT
0 4 NO. OF NODES (Originating from node above ground)	
2 Collar Shape: 1 = CLOSED 2 = V-SHAPED 3 = OPEN 3 Shape of	1 = STRAIGHT 2 = SNAKY  Neck: 3 = OTHER (Specify) CURVED
LEAF:	and the state of t
Basal leaf sheath (seedling): 1 = GLABROUS 2 = PUBESCENT 3 Position of	of flag leaf (at boot stage): 1 = DROOPING 2 = UPRIGHT 3=90° angle fro
2 Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 1 5 MM.	WIDTH (First leaf below flag leaf) s tem
2 3 CM. LENGTH (First leaf below flag leaf) Anthocya	nin in leaf sheath: 1 = ABSENT 2 = PRESENT
HEAD:  Type: 1 = TWO-ROWED 2 = SIX-ROWED Density;	4 1 = LAX 2 ≠ ERECT (Not dense) 3 = ERECT (Dense)
Shape: 1 = TAPERING 2 = STRAP 7 3 = CLAVATE  4 = OTHER (Specify) parallel sides  Waxiness:	1 #《ABŞENT》(Glossy) · · · · 2 年 SLIGHTLY WAXY
2 Lateral Kernels Overlap: 1 = NONE 2 = AT TIP 3 = 1/4 - 1/2 OF HEAD 3 Rachis (Ho	air on edge): 1 = LACKING: 2 = FEW = 3 = COVERED
GLUME:	The second secon
3 Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA 3 = MORE THAN 1/2 OF LEMMA 3 = MORE THAN 1/2 OF LEMMA	1 = NONE 2 # SHORT 3 = LONG
Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED	
Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO 3 = MORE THAN EQUAL TO LENGTH OF GLUMES	LENGTH OF GLUMES
3 Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROLIGH	

FORM GR-470-5 (Revers	se)					
8. LEMMA:						
5 Awn: 3 = SI	WNLESS 2 = AWNLETS ON CENTRAL ROHORT ON CENTRAL ROWS, AWNLETS ON LA ONG (longer than spike) 6 = HOODED		AL ROWS ORT (less than equal to length of spike)			
3 Awn Surface: 0	= AWNLESS 1 = SMOOTH 2 = SEMISM	OOTH 3 = ROUGH	the second secon			
Teeth: 1 = ABS	EENT 2 = FEW 3 = NUMEROUS	Hair: 1 = ABSE	NT 2 = PRESENT			
I 3 / Shane of hace:	= DEPRESSION 2 = SLIGHT CREASE = TRANSVERSE CREASE	2 Rachilla Hairs: 1	= SHORT 2 = LONG			
9. STIGMA:		e de la companya de	A CONTRACT OF THE STATE OF THE			
2 Hairs: 1 = FEW	/ 2 = MANY					
10. SEED:						
2 Type: 1 = NAI	KED 2 = COVERED	Hairs on Ventral Fu	arrow: 1 = ABSENT 2 = PRESENT			
4 Length: 1 = SH 4 = Mi	IORT (8.0 mm.) 2 = SHORT TO MIDLONG IDLONG TO LONG (9.0 - 10.5 mm.)	(7.5 - 9.0 mm.) 3 = M10 5 = LO	DLONG (8.5 - 9.5 mm.) NG (10.0 mm.)			
2 Wrinkling of hull	1 = NAKED 2 = SLIGHTLY WRINKLED	3 = SEMIWRINKLED	4 = WRINKLED			
1 Aleurone Color:	1 = COLORLESS (White or Yellow) 2 = B	LUE				
0 0 PERCENT AI	BORTIVE	5 0 GMS. PER 100	DO SEEDS			
11. DISEASE: (0 = Not	Tested, 1 = Susceptible, 2 = Resistant)	<u> </u>	,			
0 SEPTORIA						
1 LOOSE SMUT	0 BACTERIAL BLIGHT	0 COVERED SMUT	0 FALSE LOOSE SMUT			
0 STEM RUST	0 LEAF RUST	0 SCAB	2 scald Helminthosporiu			
O AY	0 вѕм∨	0 BYDV	OTHER (Specify) Stripe			
12. INSECT: (0 = Not te	sted, 1 = Susceptible 2 = Resistant) Not a	problem in mark	eting area.			
0 GREEN BUG	0 ENGLISH GRAIN APHID	0 CHINCH BUG	0 ARMYWORM			
0 GRASS HOPPERS	O CERIAL LEAF BETTLE	OTHER (Specify)				
	) [a] as [a] .					
HESSIAN FLY RA	ACES \ U GP U A					
0 D 0 F 0 G						
13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)						
0 DDT 0 OTHER (Specify)						
14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:						
CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY			
Plant tillering	Steptoe	Seed size	Steptoe			
Leaf size	Steptoe	Coleoptile elongation	Steptoe			
Leaf color	Steptoe	Seedling pigmentation	Steptoe			
Leaf carriage	Steptoe					

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
   Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 84.
- 3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

#### Exhibit D.

#### BOTANICAL DESCRIPTION

Lindy is an intermountain six-rowed spring barley bred and developed by North American Plant Breeders. Lindy is a midtall, mid-season feed barley. Lindy has a semiprostrate juvenile growth habit. The spike is six-rowed, lax and strap. The glumes are longer than 1/2 the length of the lemma. Glume hairs are long and covered; some glumes display a very thick band appearance. The lemma awns are long and spreading and the surface is rough. The seed has a long-haired rachilla. The seeds are covered and midlong to long with slightly wrinkled hull and have a colorless aleurone.

## 8200155

## Lindy List of Tables

NAPB 1978-1981 Agronomic Data Summary OSU 1979-1980 Agronomic Data Summary

### North American Plant Breeders 1978-1981 Agronomic Data Summary

	Yield Bu/A(9) <sup>l</sup>	Heading Date(7)	Height cm(8)	Lodging Score(1)	Head Erectness (1)
Lindy	82.4	171.0	77.8	4.0	2.2
Steptoe Karl	77.3 69.9	171.6 172.6	75.8 72.4	3.8 3.6	1.9 4.2

<sup>1</sup> number of station-years

### Oregon State University 1979-1980 Agronomic Data Summary

	Yield Bu/A(3)l	Test wt 1bs/bu(1)	Heading Date(1)	Height cm(1) 1	Lodging <u>%(1)</u>	L.Rust Rating(1)
Lindy	114.3	51.4	162.0	115.0	50.0	20ms
Steptoe	114.0	51.8	163.0	100.0	50.0	10ms

<sup>1</sup> number of station-years

### BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns forever.

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

BY:	V.a. Sama	
Title:	Pros, dent	

STATE OF KANSAS, COUNTY OF JOHNSON

WITNESS my hand and Notarial Seal at office the day and year above written.

Notary Public Thered

My Commission Expires:

ALMA M. WEAVER
NOTARY PUBLIC
STATE OF KANSAS

My Appt. Exp.

# State of Delaware Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AGR ACQUISITION CORPORATION", CHANGING ITS NAME FROM "AGR ACQUISITION CORPORATION" TO "AGRIPRO SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF JUNE, A.D. 1994, AT 4:30 O'CLOCK P.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

SECRETARY OF STATE AUTHENTICATION:

7169071

8100

2394087

ABI SHAWNEE MSN

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
AGE ACQUISITION CORPORATION

AGR Acquisition Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: that the Board of Directors of said corporation, by the unanimous written consent of its members filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "ARTICLE I" so that, as amended, said Article shall be and read as follows:

#### "ARTICLE I

#### Name

The name of the corporation (hereinafter called the 'Corporation') is Agripro Seeds, Inc."

SECOND: That in lieu of a meeting and vote of stockholders, the sole shareholder of the corporation has given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of said corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said AGR Acquisition Corporation has caused this certificate to be signed by Gary T. Hancock, its President, and attested by Ann Steelman, its Secretary, this 30 day of June, 1994.

AGR ACQUISITION CORPORATION

1: Day J. No

Gary W. Hancock, President

ATTEST:

Ann Steelman, Secretary